

## **AN EVALUATION OF VEGETATION AND PLANT COMMUNITIES AT RECONSTRUCTED AND NATURAL WETLANDS**

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*Abstract:* Vegetation at 12 reconstructed wetlands and 3 natural wetlands was sampled during 2005 and 2006. Plant communities were delineated and a qualitative floristic inventory obtained. Quantitative data reflecting species abundance was collected along transects that traversed the wetland communities. There were 35 different plant communities mapped on the 15 study sites. Those with the highest occurrence include temporary/seasonally flooded wetland, semi-permanently flooded wetland/aquatic, temporary flooded reed canary grass, tallgrass prairie reconstruction and wet-mesic cool-season grass and forb. The habitat diversity index (HDI) ranged from 1.6 to 17.3. There was no correlation between size of the site and its HDI. There were no significant differences in HDI or the percentage of wetland between reconstructed and natural sites. The total number of plant taxa observed over all sites was 578 species. Genera that were most represented in the vegetation include *Carex* (46), *Aster* (12), *Polygonum* (11), *Sagittaria*, *Lysimachia*, *Quercus*, *Bidens*, and *Plantago* (6 each). Vegetation at the reconstructed wetlands did not attain the quality inherent in natural wetlands. Exotic species combined with the lack of *Carex* and other important wetland species is a central area of difference. Reconstructed wetlands exhibited very few discernible patterns in vegetation that could be attributed to size or age effects. Small sites had species compositions with greater wetland affinity than did large sites, thus better restorations can be achieved if their size is kept relatively small. Inclusion of non-native species contributed to the overall lack of ecological performance. More knowledgeable design of seed mixes is needed.